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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/667,671

09/23/2003

Hiroshi Takei

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7590

01/03/2007

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.

1940 DUKE STREET

ALEXANDRIA, VA 22314

EXAMINER

ZIMMER, MARC S

ART UNIT

PAPER NUMBER

1712

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/667,671	Applicant(s) TAKEI ET AL.	
	Examiner Marc S. Zimmer	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 13-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/24/06</u> . | 6) <input type="checkbox"/> Other: _____ |

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on October 24, 2006 has been entered.

Prior to having filed the request for continued examination, Applicant had contacted the Examiner to request that an IDS that had been furnished, but not considered, before allowance be initialed and signed. The Examiner acted on the Applicant's request but, in the interim, an RCE had been filed without the Examiner's knowledge and, hence, a supplemental notice of allowability was mailed subsequent to the date of the RCE. Applicant is advised that the supplemental NOA, mailed November 7, 2006, had been in response to their earlier request and was to accompany the signed IDS received September 19, 2006.

The present correspondence summarizes the Examiner's opinion regarding the patentability of the claims over the reference in the IDS received October 24, 2006.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamura et al., JP 2001-018330 in view of Nakamura et al., U.S. patent # 5,652,290 or Toya et al., U.S. patent # 5,021,494.

The objectives stated in the Okami document are to prepare a thermally-conductive polysiloxane composition and, in turn, apply said composition to a heat-resistant carrier layer to provide a composite product. It is significant that paragraph 27 indicates that a layer of thermoconductive silicone rubber may be applied to both sides of the heat resistant film as this element is required of the instant invention. The base polymer, a preferably vinyl group-functionalized polydimethylsiloxane (paragraphs 9 and 10) has a degree of polymerization of 3,000 to 20,000. As a curing mechanism, both a peroxide-facilitated free radical approach and a hydrosilylation approach are contemplated in paragraphs 15 and 16. Amounts of peroxide similar to that recited in claim 13 are advocated in paragraph 16. As thermally-conductive fillers, the disclosure teaches the employment of both carbon black and one or more metal oxides, carbides, or nitrides. Taken together, the two types of filler are added in a quantity of between 10 and 1600 weight parts per 100 parts of the base polymer (paragraph 14).

Concerning claims 2-4, the heat-resistant carrier film is any of those types outlined in paragraph 19 and 20. A recommended thickness of this layer is 10-50 micrometers according to paragraph 26.

Relevant to the present discussion, mention of adhesion promoters is made in paragraph 18. While it is appreciated that the disclosure of this component is, at best, cursory in nature, its inclusion in the silicone layers is nevertheless obvious. Further, in

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the absence of any description of the adhesion promoters themselves, one of ordinary skill would turn to the related prior art to ascertain what compounds are conventionally employed in this capacity.

Nakamura and Toya both describe thermally conductive, addition-curable silicone compositions and are, as such, considered to be directed to analogous inventions. Both of these references teach adhesion promoters having one or more of epoxy groups, alkoxy groups, vinyl groups and hydrosilyl groups- Nakamura at column 6, lines 22-35 and Toya at the bottom of column 4/top of column 5- hence the subject matter recited in claims 17 and 19 is deemed obvious.


As an aside, the Examiner acknowledges that Okami contemplates one embodiment wherein a primer is used to bond together the silicone- and thermoplastic layers. Of course, in those instances, the silicone layers would not be laminated directly to the intermediate layer as the Examiner has deemed necessary according to his interpretation of the claims. However, a primer layer does not appear to be required. Furthermore, the skilled artisan would recognize that the employment of self-adhesive organopolysiloxane compositions is beneficial as an alternative to the application of a primer layer inasmuch as the latter bonding strategy adds time and expense to the process of making composite materials.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 29, 2006


MARC S. ZIMMER
PRIMARY EXAMINER